AMENDMENTS TO THE CLAIMS:

Please cancel claims 9-14 without prejudice or disclaimer, amend claims 1, 2, 6-8, and 15, and add new claims 20-24, as follows:

1. (Currently Amended) A microwave plasma processing system comprising:

a processing vessel;

an antenna for introducing microwaves into said processing vessel, the antenna having a plurality of substantially ring-shaped and substantially concentric antenna waveguides, each of said antenna waveguides having a substantially rectangular radial cross-section and comprising a proximal end portion configured to allow flow of the microwaves in only one radial direction, a terminal end portion, and a wall having a plurality of slots formed at a predetermined interval;

a microwave supply source for supplying said microwaves to said antenna; and

a connecting waveguide for connecting said microwave supply source to said proximal end portion of each of said antenna waveguides,

wherein at least one of the connecting waveguide and the proximal end portions of the antenna waveguides are configured to guide the microwaves supplied from the microwave supply source to the respective one of the antenna waveguides such that the microwaves in each of the antenna waveguides flow in the direction opposite to that of the neighboring antenna waveguide, and

wherein a plasma is produced in said processing vessel by said microwaves introduced from said antenna.

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2. (Currently Amended) A microwave plasma processing system ~~as set forth in claim 1~~[[,]] comprising:

a processing vessel;

an antenna for introducing microwaves into said processing vessel, the antenna having a plurality of substantially ring-shaped and substantially concentric antenna waveguides, each of said antenna waveguides having a substantially rectangular radial cross-section and comprising a proximal end portion, a terminal end portion, and a wall having a plurality of slots formed at a predetermined interval;

a microwave supply source for supplying said microwaves to said antenna; and

a connecting waveguide for connecting said microwave supply source to said proximal end portion of each of said antenna waveguides,

wherein a plasma is produced in said processing vessel by said microwaves introduced from said antenna, and

wherein at least one of said antenna waveguides of said antenna is provided with aperture variable device for varying the size of an aperture at said proximal end portion.

3. (Previously Presented) A microwave plasma processing system as set forth in claim 1, wherein said terminal end portion of each of said antenna waveguides of said antenna is closed with a conductor.

4. (Previously Presented) A microwave plasma processing system as set forth in claim 1, wherein said terminal end portion of each of said antenna waveguides of said antenna is closed with a microwave absorber.

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5. (Original) A microwave plasma processing system as set forth in claim 1, wherein said connecting waveguide extends to the proximal end portion of innermost one of said antenna waveguides in a substantially radial direction with respect to each of said antenna waveguides.

6. (Currently Amended) A microwave plasma processing system as set forth in claim 1, wherein [said] a terminal end portion of said connecting waveguide is closed with a conductor.

C1

7. (Currently Amended) A microwave plasma processing system as set forth in claim 1, wherein [said] a terminal end portion of said connecting waveguide is closed with a microwave absorber.

8. (Currently Amended) A microwave plasma processing system ~~comprising~~[[:]] as set forth in claim 1, wherein the processing vessel comprises a microwave transmittable top wall and the antenna is mounted on the top wall of the processing vessel.

~~a processing vessel having a microwave transmittable top wall;~~

~~an antenna for introducing microwaves into said processing vessel, the antenna mounted on said top wall of said processing vessel and having a plurality of substantially ring-shaped and substantially concentric antenna waveguides, each of said antenna waveguides having a substantially rectangular radial cross-section and~~

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~~comprising a proximal end portion, a terminal end portion, and a bottom wall having a plurality of slots formed at a predetermined interval;~~

~~a microwave supply source for supplying said microwaves to said antenna; and~~

~~a connecting waveguide for connecting said microwave supply source to said proximal end portion of each of said antenna waveguides,~~

~~wherein a plasma is produced in said processing vessel by said microwaves introduced from said antenna.~~

9-14. (Canceled)

15. (Currently Amended) A microwave plasma processing system comprising:

a processing vessel;

an antenna for introducing microwaves into the processing vessel, having a plurality of substantially ring-shaped antenna waveguides, each of the antenna waveguides comprising a proximal end portion and a terminal end portion;

a microwave supply source for supplying the microwaves to the antenna; and

a connecting waveguide for connecting the microwave supply source to each of the antenna waveguides, the connecting waveguide having a closed terminal end portion and a plurality of side apertures <u>associated with the proximal end portions of the antenna waveguides</u> for supplying the microwaves to each of the antenna waveguides,

<u>wherein at least one of the connecting waveguide and the proximal end portions of the antenna waveguides are configured to guide the microwaves supplied from the microwave supply source to the respective one of the antenna waveguides such that</u>

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the microwaves in each of the antenna waveguides flow in the direction opposite to that of the neighboring antenna waveguide.

16. (Previously Presented) A microwave plasma processing system as set forth in claim 15, wherein each of the plurality of apertures is connected to the proximal end portion of each antenna waveguide.

17. (Previously Presented) A microwave plasma processing system as set forth in claim 15, wherein each of the antenna waveguides has a substantially rectangular radial cross-section and includes a bottom wall having a plurality of slots formed at a predetermined interval.

18. (Previously Presented) A microwave plasma processing system as set forth in claim 15, wherein the connecting waveguide extends to the proximal end portion of innermost one of the antenna waveguides in a substantially radial direction with respect to each of the antenna waveguides.

19. (Previously Presented) A microwave plasma processing system as set forth in claim 15, wherein the terminal end portion of each of the antenna waveguides is closed with a conductor.

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20. (Previously Presented) A microwave plasma processing system as set forth in claim 15, wherein the terminal end portion of each of the antenna waveguides is closed with a microwave absorber.

21. (New) An antenna for introducing microwaves in a microwave plasma processing system, comprising:

a plurality of substantially ring-shaped and substantially concentric antenna waveguides having a substantially rectangular radial cross-section, each of the antenna waveguides comprising:

a proximal end portion configured to receive microwaves from a microwave supply source and configured to allow flow of the microwaves in only one radial direction;

a terminal end portion; and

a wall having a plurality of slots formed at a predetermined interval,

wherein the proximal end portions of the antenna waveguides are configured to guide the microwaves supplied from the microwave supply source to the respective one of the antenna waveguides such that the microwaves in each of the antenna waveguides flow in the direction opposite to that of the neighboring antenna waveguide.

22. (New) The antenna as set forth in claim 21, wherein at least one of the antenna waveguides comprises an aperture variable device for varying the size of an aperture at the proximal end portion.

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23. (New) The antenna as set forth in claim 21, wherein the terminal end portion of each of said antenna waveguides is closed with a conductor.

24. (New) The antenna as set forth in claim 21, wherein the terminal end portion of each of said antenna waveguides is closed with a microwave absorber.

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